

## REPORT of July 21st MEETING of the FFCC

A tele-video meeting of the Fusion Facilities Coordinating Committee was held on July 21th. The FFCC participants in the meeting were Rich Hawryluk, Ian Hutchinson, Martin Peng, Ned Sauthoff, and Ron Stambaugh. In addition, Erol Oktay, Don Priester, Rostom Dagazian and Warren Marton participated. The PAC chairs were not able to participate.

The meeting was a follow up meeting to our previous discussions regarding peer review. At our previous meeting, several issues were identified and formed the basis for discussion. These issues were:

- National Labs need to be reviewed along with universities and industry.
- Process must enable new groups to participate in research on national facilities.
- Goal should be to create the “best” team for an integrated program.
- NSTX needs to formulate a five year review cycle like the C-Mod and DIII-D review.
- What is the relationship of PAC to peer review?
- Who is responsible for the integrated program with authority and responsibility distributed?
- How are grants coordinated with the requirements for the program on the facilities?

Prior to the call, a set of slides were prepared and discussed. The following represent a summary of our discussions of these issues and the overarching issue regarding how the program and operations should be reviewed.

### **What is the Process for Reviewing the Program and Operation of the Facilities?**

- **The research program conducted by the national team is reviewed as part of the 5-year DOE contract review process.**
  - Input from the entire team is used to develop a proposal for the research to be conducted. This process currently takes approximately 2 years on DIII-D.
  - NSTX, which has recently come into operation, will also undergo a similar review.
- **Management of the research program and facility operation by the host (or consortium) should be reviewed.**
  - For some projects which have a number of large institutions which work together, the consortium of institutions would participate in this review.
  - This review would as a minimum take place along with the 5-year contract review process.
  - DOE needs to determine the frequency of the review. However, an annual review appears burdensome and more frequent reviews need to be offset by eliminating other reviews.
  - **Action: A recent suggestion has been made to conduct these reviews similar to those being conducted of the accelerator laboratories. However, a possibly more relevant model is the review process of the large detectors used in nuclear and high energy particle physics experiments. These detectors are composed of large collaborative teams working together for many years, similar to the teams on our large facilities. OFES will investigate how those teams are reviewed and the frequency of the reviews.**

### **National Labs need to be reviewed along with Universities and industry**

**Yes but how?**

- **DIII-D: Major collaborators submit a companion document along with the DIII-D Proposal which would be reviewed.**
  - The development of the 5-year contract renewal document identifies the scope that the National Team is proposing. The participants would then propose what scope each institution wants to do. The DOE review would address the scope the major collaborators would do.
  - Midway through the 5-year process DOE reviews the entire collaborative program performed by the national labs. [Several of the national laboratories questioned the need for this extra review and wanted to see a comprehensive plan of how they will be reviewed and what existing reviews will go away.]
- **PPPL: A variant on the above is that the review process for national labs be similar to that for universities and industry, with respect the use panels or three anonymous reviewers and frequency of reviews.**

### **Process must enable new groups to participate in research on national facilities**

**Yes but how do new participants find out about the opportunities?**

- **DIII-D: 2 options:**
  - New participant discusses the proposed workscope with the DIII-D Executive Committee, which provides a recommendation to the Program Head who in turn provides a recommendation to DOE. DOE then reviews the new participant's proposal.
  - Major initiatives are conducted by means of solicitations, letters of intent, PAC comments on program direction, DOE issues a call for proposals.
- **PPPL:**
  - National team develops a program letter annually outlining opportunities.
  - PAC provides comments on the program letter. Director submits recommendations for new opportunities to DOE.
  - DOE issues a call for proposals.

**These two approaches are quite similar for major new solicitaitons.**

### **Goal should be to create the “best” team for an integrated program**

- **Concern is that the integrated program relies on sharing of information and “sweat equity”**
- **Host should be evaluated on the integration of the multi-institutional teams**
- **Collaborators on the research contributions to and support of the team's activities**
- **Inherent conflict between individual performance and contribution to the team must be managed.**
  - At present the major collaborators have a strong vested interest in the success of the facilities they are working on. As a result, they shift resources to address programmatic needs and issues on the facilities, which can be different from the originally targeted workscope. This flexibility is very valuable to the success of the facilities and needs to be taken into account during the review cycle.

- At the same time for the review to be meaningful, there must be rewards and consequences for the impact of the contribution of the collaborators.

### **NSTX needs to formulate a five year review cycle like that on C-Mod and DIII-D.**

- **Agreed**
  - Details to be worked out.

### **What is the relationship of PAC to peer review?**

- **PPPL: PAC advises the Director on the research programs.**
  - Provide valuable technical as well as programmatic input.
  - Meets twice a year
  - Does not review proposals for experiments or different research groups
    - Not a “peer-review” process

**DIII-D & C-Mod: PAC is not a “peer-review” process but it would be difficult to meet twice a year. [The lack of participation by the PAC chairs in the FFCC meeting is cited as an example of the difficulty in getting others involved.] If we are going to have more external reviews, can we take credit for the PAC meetings or should we abolish them if they are not fulfilling a mission? Still struggling with the tension of wanting the PAC meetings to be integrated with the program needs and yet serve a “peer-review” function.**

### **Who is responsible for the integrated program with authority and responsibility distributed?**

- **Host bears the responsibility for the integration of the multi-institutional teams and addressing technical issues to ensure the success of the program.**
- **Collaborators are responsible for supporting the integrated program.**
- **OFES through its review process oversees the performance of the members of the team**

### **How are grants coordinated with the requirements for the program on the facilities?**

- **See previous comments about how new groups participate in research on national facilities.**
- **The issue is to strike the right balance between an exciting and novel proposal and essential programmatic needs.**
  - Rogowski coil to measure the plasma current is essential but unlikely to come across as novel.

### **Future Actions:**

The next step is for DOE to develop a draft proposal for members of the FFCC to comment on. These discussions have highlighted several of the issues, which need to be addressed and the complexity of these issues.